Space Shuttle

To discuss ...

SPECIAL NOTE: The Shuttle presents an opportunity to talk about the risks of space travel. After the loss of the Space Shuttle Columbia and its crew on February 1, 2003 (and the loss of Challenger in 1986), it might have been easy to turn our backs on space exploration because it is too hard or too risky. Instead, we decided to double our efforts to improve safety. We will continue to send people into space.

- Why do you think people are willing to be pioneers, and take chances like today's astronauts, many of whom are scientists..?

  -- Bravery…to go first so others may follow.
  -- Curiosity…the pursuit of knowledge and discovery.
  -- Adventure…to be among the first to explore a new frontier.

- How fast is the Shuttle..? How fast could it go from New York to Chicago..?

  -- It orbits the Earth at 18,000 miles an hour.
  -- It travels 820 miles – the distance from New York to Chicago – in 3 minutes.

- Once it reaches outer space, the Shuttle is no longer flying, it's floating. What does that mean..?

  -- It's drifting through space with its engines turned off, in orbit around the Earth. The Shuttle and its astronauts are floating in "weightlessness."

- What happens when the Shuttle returns to Earth..?

  -- The Shuttle enters the Earth's atmosphere like a meteor from outer space.
  -- The temperature outside the Shuttle reaches 3,000˚ F…hot enough to melt steel. Special tiles and insulation protect the people inside.
  Friction from the atmosphere is what makes the outside of the Shuttle so hot. The friction acts as a brake to slow the Shuttle down.
  -- After it slows down, it starts to fly, gliding down to the runway and landing like a plane.

- The Space Shuttles (there are three of them) carry people and cargo into space. They can do many things that would be difficult, if not impossible, without them. Can you think of some of those things..?

  -- Build the International Space Station, and deliver food and supplies.
  -- Perform experiments on plants, animals or anything else in space, and then bring them safely back to Earth.
  -- Repair and service satellites in space (like the Hubble Space Telescope).
  -- Capture and return satellites to Earth.
  -- Teach us about the effects of space travel on people.
  -- Test new technology so we can build better space ships in the future.